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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CONNOLLY, MARK A

ART UNIT	PAPER NUMBER
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2115

DATE MAILED: 02/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/788,191

Applicant(s)

MADDEN ET AL.

Examiner

Mark Connolly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4&7.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Oath/Declaration

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The declaration filed 4/20/01 does not properly identify the application to which it pertains. The filing date is missing and/or a statement that the application is attached thereto.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. For examining purposes, the claim has been interpreted as seen below:

Referring to claim 1, the meaning of “retrieving an image from a file on the computer into RAM” is unclear [see page 36 line 3]. The examiner is unsure if the image is *retrieved from RAM* or *loaded into RAM*. Referring to step 108 in Fig. 1, the examiner, has interpreted “retrieving an image from a file on the computer into RAM” as “loading an image from a file on the computer into RAM.”

Secondly, it is ambiguous as to whether or not the emulated peripheral and the RAM are the same. Since the pre-boot code is loaded into RAM and then the pre-boot code is read from the emulated peripheral, it is interpreted that the RAM is the emulated peripheral. It is also interpreted that the emulated peripheral and the alternate source are the same.

Claim Objections

4. Claim 11 is objected to because of the following informalities: It is unclear how the file can be the alternate source. It is interpreted by the examiner that the redirected I/O causes the file to be read sector by sector from an alternate source. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by Kwan US Pat No 6415382.

7. Referring to claim 1, Kwan teaches the method for loading and running pre-boot code on a computer from a local file including:

- a. loading an image from a file on the computer into RAM, the image containing the pre-boot code [fig. 4A, col. 4 lines 32-35 and col. 5 lines 20-30].
- b. at least initiating redirecting I/O to emulate a peripheral storage device of the computer, whereby a subsequent call to read a sector of data from the peripheral storage device returns data from an alternative source instead of returning data from the peripheral storage device [fig. 4A, col. 4 lines 32-35 and col. 5 lines 20-30].

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- c. reading at least a first sector of pre-boot code from the emulated peripheral storage device and executing it, thereby passing control of the computer to the pre-boot code first sector [col. 3 lines 53-58 and col. 5 lines 20-30].
- 8. Referring to claim 2, Kwan teaches that the redirecting means enables the system to boot from a different operating system [col. 3 lines 53-58].
- 9. Referring to claim 5, Kwan teaches detecting a boot failure and assessing the failure in order to make any necessary repairs [col. 3 lines 53-58 and col. 6 lines 40-46].
- 10. Claims 1, 17, 26 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated over Stewart US Pat No 6539456.
- 11. Referring to claim 1, Stewart teaches the method for loading and running pre-boot code on a computer from a local file including:
 - a. loading an image from a file on the computer into RAM, the image containing the pre-boot code [col. 1 lines 27-35 and col. 1 line 62 – col. 2 line 3 and col. 2 lines 14-17].
 - b. at least initiating redirecting I/O to emulate a peripheral storage device of the computer, whereby a subsequent call to read a sector of data from the peripheral storage device returns data from an alternative source instead of returning data from the peripheral storage device [abstract and col. 1 lines 27-35].
 - c. reading at least a first sector of pre-boot code from the emulated peripheral storage device and executing it, thereby passing control of the computer to the pre-boot code first sector [col. 1 lines 27-35].

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12. Referring to claim 17, Stewart teaches the computer system configured to run pre-boot code from a local file including:

- a. a processor in operable connection with a random access memory [col. 1 line 67 col. 2 line 2].
- b. a local hard drive accessible to the processor without a network connection, the local hard drive storing a partition, the partition containing a file system, the file system containing a file, the file containing the pre-boot code [fig. 1]. It is well known in the art that hard drives store a partition that contains a file system.
- c. a pre-boot code loading means for reading the pre-boot code from the file into random access memory for execution by the processor prior to or in place of booting on the computer an operating system which is distinct from the pre-boot code [fig. 1 and col. 1 lines 23-35].

13. Referring to claim 26, Stewart additionally teaches that the pre-boot code can be cached [col. 1 lines 27-35 and col. 3 lines 10-13].

14. Referring to claim 28, Stewart teaches the computer program storage medium which contains software to perform method steps for running pre-boot code from a local file including:

- a. redirecting I/O of a peripheral storage device of the computer, whereby a subsequent call to read a sector of data from the peripheral storage device returns data from an alternate source instead of returning data from the peripheral storage device [col. 1 lines 23-35].
- b. obtaining an image from a file on the computer, the image containing the pre-boot code, the image obtained at least in part by redirecting I/O [fig. 1 and col. 1 lines 23-35].

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- c. passing control of the computer to the pre-boot code[col. 1 lines 23-35].

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwan as applied to claims 1, 2 and 5 above.

17. Referring to claim 3, Kwan does not explicitly teach an operating system comprises a DOS operating system but it is obvious that the different operating system could be DOS because DOS is a well-known operating system.

18. Claims 4, 6-12, 15, 18-20, 23, 25, 29 and 31-32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart as applied to claims 1, 17, 26 and 28 above.

19. Referring to claim 4, Stewart teaches loading the contents of a boot disk into RAM in order to increase speed [col. 1 lines 27-35]. Even though Stewart is directed towards loading pre-boot code in order to load an operating system, it is believed that it would have been obvious to apply the teachings of Stewart and apply them when flashing a BIOS. It is well known and common practice to flash a BIOS via a bootable floppy, it is apparent that by loading the floppy image containing the flashing code into RAM, the time to flash a BIOS would decrease due to the fact that the flashing procedure would be able to access everything from RAM instead of from floppy disk which has a much longer access time.

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20. Referring to claim 6, although Stewart teaches redirecting I/O to read from RAM rather than from a boot disk [abstract and col. 1 lines 27-35] it is not explicitly taught that the boot disk is a floppy disk. Stewart does not explicitly teach that the boot disk could not be a floppy disk and because it is well known in the art that operating systems can be stored on and booted from floppy disks, it would have been obvious to one of ordinary skill in the art that the boot disk in the Stewart system could include a floppy disk wherein the redirecting the I/O from the boot disk to the RAM would include redirecting floppy I/O.

21. Referring to claim 7, Stewart teaches that shorter boot time is desirable and therefore it would have been obvious to one of ordinary skill in the art to modify the Stewart system to load the entire floppy image onto RAM along with the pre-boot code because floppy I/O is slow and by copying the floppy image into RAM, boot up speed would increase. Furthermore, because the floppy image is loaded into RAM, it is obvious that the image could be loaded into extended memory.

22. Referring to claim 8, memory managers are well known in the art and because the modified Stewart system teaches that the floppy image is loaded into memory prior to the system booting up, it is obvious that the floppy image would be allocated in the RAM by the memory manager before any other code other than the pre-boot code.

23. Referring to claims 9 and 10, Stewart teaches loading the pre-boot code into memory then reading the pre-boot code from memory in order to execute the pre-boot code [col. 1 lines 27-35]. It is obvious that the region in memory the pre-boot code was stored could be contiguous.

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24. Referring to claims 11 and 12, Stewart teaches that the pre-boot code is read from RAM rather than from the disk drive [col. 1 lines 27-35]. It is obvious that the sectors do not necessarily have to be contiguous on disk.

25. Referring to claim 15, Stewart teaches booting from RAM rather than from disk or floppy [col. 1 lines 23-35]. It is interpreted that this procedure constitutes running other pre-boot code rather than standard loader code which would boot off of a disk or floppy.

26. Referring to claims 18-20, 23, 25, 29 and 31-32 and 35, these are rejected on the same basis as set forth hereinabove.

27. Claims 13, 21 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart as applied to claims 1, 17, 26 and 28 above, and further in view of Mary.

28. Referring to claim 13, Mary teaches setting a default item in the boot.ini file in order to enable dual-boot capabilities in a computer system. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Stewart system to set a default item in the boot.ini file because it would allow the user to boot multiple operating systems on the computer.

29. Referring to claims 21 and 33, these are rejected on the same basis as set forth hereinabove.

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30. Claims 14, 16, 22, 24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart as applied to claims 1, 17, 26 and 28 above, and further in view of Dalton et al¹ [Dalton].

31. Referring to claim 14, Stewart does not explicitly teach a boot.ini file. Dalton explicitly teaches that computers comprise a boot.ini file, which is used to boot a computer system and which also contains information on the names and locations of different bootable operating systems [page 124]. It is obvious that each operating system to load would have a corresponding file associated with loading that particular operating system and it is further obvious that the file name to load would change depending on which operating system the user is loading.

32. Referring to claim 16, Stewart does not explicitly teach a boot.ini file. Dalton explicitly teaches that computers comprise a boot.ini file, which is used to boot a computer system and which also contains information on the names and locations of different bootable operating systems [page 124]. Stewart teaches that the pre-boot code is loaded into RAM and it is therefore obvious that the boot.ini file would have to identify the pre-boot code in RAM. It is interpreted by the examiner that the pre-boot code in RAM is non-standard pre-boot code since booting a computer using pre-boot code in RAM is not standard practice,

33. Referring to claims 22, 24 and 34, these are rejected on the same basis as set forth hereinabove.

¹ As cited by the applicant

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34. Claims 27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart as applied to claims 6-12, 18-20, 25, 29 and 31-32 above, and further in view of Feigenbaum et al [Feigenbaum] US Pat No 5307497.

35. Referring to claims 27 and 30, Stewart does not explicitly teach that the image, which is being stored into RAM, includes DOS operating system code. Rather, Stewart only teaches that a boot program is stored into the RAM. Feigenbaum teaches that it is advantageous to load DOS into system memory first before booting the computer system [col. 1 lines 25-28]. It would have been obvious to one of ordinary skill in the art to modify the Stewart system to load the entire operating system (more specifically DOS) into memory because Feigenbaum teaches that memory can be accessed much faster than a boot disk and would therefore inherently speed up the booting process [col. 1 lines 40-64]. It is obvious that in the Stewart-Feigenbaum system, once the image is loaded into RAM, the image comprising boot code and the operating system, the boot code would execute and load the operating system stored in RAM thus booting a DOS system strictly from memory and not from a boot floppy disk or a DOS hard disk partition.

Conclusion

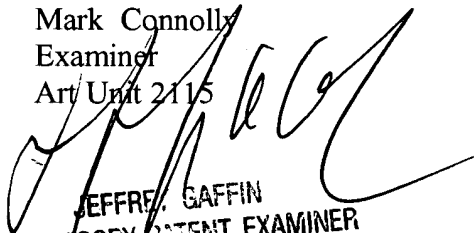
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (703) 305-7849. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mc
February 12, 2004

Mark Connolly
Examiner
Art Unit 2115

JEFFREY GAFFIN
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